

REMARKS

For the following reasons, Applicants respectfully submit that the Election Requirement is improper and should be withdrawn. Accordingly, reconsideration and withdrawal of this Requirement are requested.

I. The Election Requirement at This Late Stage of Prosecution Is Improper and Highly Prejudicial To Applicants

This application has been pending since 1-18-2002. There have been five (5) previous Office Actions on the merits of all Claims 1-16 and 18-35 in this application (the present Election Requirement is the 6th Office Action) that addressed the claims in substantially the same form as they presently exist. The Office has previously searched all claims in the application at least five (5) times, and has acted on the claims in the five previous Office Actions. Claims 1-16 and 18-35 do not contain any limitations that have not previously been claimed or searched. In fact, many of the claims are original and have never been amended, and those that have been amended have principally been amended merely for clarity and to incorporate limitations that appeared in original dependent claims. Applicants have expended substantial time, money and resources responding to the rejections of the claims in these five previous Office Actions.

At this late stage in the prosecution, there is now no new substantial or undue examination and search burden on the Office, since all claims have been previously searched and examined multiple times. There is, however, substantial burden, prejudice and detriment to Applicants, after having expended significant time and money responding to previous Office Actions, for the Office to now impose an election

of species on Applicants and the potential of having to file multiple divisional applications directed to different presumed species. This is highly inequitable to Applicants. Accordingly, equitable considerations alone demand withdrawal of the Election Requirement.

II. This Application Does Not Claim Multiple Species

The Office's statement that this application claims multiple species is in error, as well as is its identification of thirteen (13) different species in the Election Requirement. There is only one invention/species claimed in this application, i.e., a switch/line card as illustrated in Figs. 6 and 7 (identified as "Species IV"), and the virtualization process performed by the switch/linecard of Figs. 6 and 7. Claims 1-16 and 18-35 are apparatus, method and product claims that are generic to and claim the invention embodied in Figs. 6 and 7.

The present application is one of a series of eight simultaneously filed applications (four of which have now issued as patents), as are identified in paragraph [0002] on pages 1-2 of the specification (as updated in the Amendment of April 20, 2009). These eight applications are directed to different aspects of an intelligent storage switch for a storage network and to different processes performed by the storage switch. They share substantially similar specifications and drawings that describe and illustrate the various processes and functions of the storage switch that are claimed separately in the various applications.

The present application of that series of eight is directed to “virtualization”, i.e., the translation of virtual addresses of logical storage targets to physical addresses of physical storage devices on which the virtual (logical) targets are provisioned, and all claims in this application are directed to such virtualization apparatus and method. The figures in this application illustrate varying levels of detail of the virtualization apparatus and method of the claimed invention. They do not illustrate different species of the virtualization apparatus and method.

In particular, Figs. 3, 4 and 5 identified by the Examiner as illustrating, respectively, Species I, Species II, and Species III are overall block diagrams that merely show different storage system environments and system architectures comprising initiators, storage switches and storage devices in which the storage switches and methods of the invention may be employed. These block diagrams do not illustrate different species of the invention, but merely different system architectures and environments in which the invention may be employed. The claims recite broadly a generic storage system and environment to provide context for the claimed storage apparatus and method. They do not recite the particulars of different storage system architectures or environments.

More particularly, Figs. 14, 14a, 15, 15a (“Species V”) illustrate the virtualization process performed by the switch on command (“CMD”) packets flowing through the switch from an initiator (an ingress port) to a target (an egress port). Figs. 18, 18a, 19, 19a (“Species VII”) illustrate the virtualization process performed by the switch on a write data (“WR”) packet, and are substantially the same as Figs. 14, 14a, 15, 15a,

respectively. In fact, Figs. 14a, 15a are identical to Figs. 18a, 19a except for the labels “Cmd” and “write data” on the figures adjacent the figure numbers. These two groups of figures merely show more specific details of the same claimed virtualization process as applied to two different kinds of packets flowing from an initiator, through the switch, to a target. The virtualization process illustrated in these two groups of figures is substantially the same. The figures do not show separate species.

Similarly, Figs. 16, 16a, 17, 17a (“Species VI”) illustrate details of the claimed virtualization process as applied to a “ready to transmit” (R2T)/“transfer ready” (XFR_RDY) packet flowing through the switch from a target to an initiator; Figs. 20, 20a, 21, 21a (“Species VIII”) illustrate the claimed virtualization process as applied to a “read data” (RD) packet flowing through the switch from a target to an initiator; and Figs. 22, 22a, 23, 23a (“Species IX”) illustrate the claimed virtualization process as applied to a “Response” packet flowing through the switch from a target to an initiator. These three groups of figures are also substantially similar, with Figs. 17a, 16a (R2T/XFR_RDY); Figs. 21a, 20a (RD); and Figs. 23a, 22a (Response) being identical except for the labels next to the figure numbers. As above, these groups of figures merely show the same virtualization process for different kinds of packets. They do not show separate species.

The handshaking protocols and types of packets exchanged by initiators and storage devices to store and access data in a storage network are well understood by those skilled in the art. Figs. 14, 14a, 15, 15a; Figs. 16, 16a, 17, 17a; Figs. 18, 18a, 19, 19a; Figs. 20, 20a, 21, 21a; and Figs. 22, 22a, 23, 23a merely illustrate more

specific details of the same claimed virtualization process of invention as performed by the storage switch for the different types of packets exchanged by storage initiators and storage targets for reading and writing data. The claims do not distinguish between types of packets, and are generic to the virtualization process shown in the figures as applied to all types of packets.

As to the remaining "Species" identified by the Examiner, Fig. 25 ("X") illustrates a process for mirroring over a slow link; Fig. 26 ("XI") illustrates a snapshot process; Fig. 27 ("XII") illustrates a process for cloning; and Fig. 28 ("XIII") illustrates a third party copy process. None of these processes is claimed in this application. Rather, they are claimed in other related applications.

III. Conclusion

Thus, in view of the foregoing, it is respectfully submitted that the Election Requirement is improper, and should be withdrawn.

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